Strategic Prioritization Process Annual Report 2018

Updated March 31, 2019

EXECUTIVE SUMMARY

In accordance with the Strategic Transportation Investment (STI) law, *"Beginning December 1, 2016, the Department shall report annually to the Joint Legislative Transportation Oversight Committee on any changes made to the highway or non-highway prioritization process and the resulting impact to the State Transportation Improvement Program"* (G.S. 136-189.11(h)). This report provides an update on the implementation of the Department's Strategic Prioritization Process in accordance with the STI law for 2018. This is the third such report and covers changes made with the implementation of the third cycle, also known as Prioritization 5.0 (P5.0).

The Strategic Transportation Investments law was passed in June 2013. This landmark legislation fundamentally changed how capital transportation projects were selected and funded in North Carolina. Projects are selected based on a systematic evaluation and ranking, using a combination of data and local priorities. Funding is applied to projects with the highest scores.

The Department developed P5.0 in 2016-2017. As in previous prioritization cycles, the Department employed "*the use of a workgroup process to develop improvements to the prioritization process*." Changes were made to "*continually improve the methodology and criteria used to score highway and non-highway projects pursuant to* [the STI law], *including the use of normalization techniques, and methods to strengthen the data collection process"* (G.S. 136-189.11(h)).

The P5.0 Workgroup met 18 times over a 9-month period and made the following recommendations to enhance the scoring process for P5.0:

<u>Global Changes</u>

- Revised the Normalization approach from P4.0 to guarantee that each Division will receive non-highway funding in the Division Needs category

<u>Highway Scoring Changes</u>

- Incorporated the expected benefits of projects in the Safety criteria
- Updated the Freight criteria to focus on truck volume, truck percentage and completion of future interstate segments
- Updated the Economic Competitiveness criteria to focus on the % change in the county economy and the % change in long-term jobs expected as a result of the project
- Revised the Multimodal criteria to measure the degree the project benefits other modes

Non-Highway Mode Scoring Changes

- For Aviation scoring, updated the cost component of the Benefit/Cost criteria to "Cost to NCDOT" in order to be consistent with scoring for other modes
- For Bicycle & Pedestrian scoring, incorporated crash severity along the route in the Safety criteria and whether the project is part of or a connection to a national, state, or regional bike route in the Connectivity criteria
- For Rail scoring, reorganized and clarified several measures to better align with scoring used in other modes; added a Multimodal measure to the System Opportunities criteria and a Highway Diversion measure to the Capacity and Diversion criteria
- For Public Transportation scoring, significant changes were made to enhance the criteria and measures used in project evaluation. Public Transportation projects are to be scored in three categories of projects: Mobility (includes all route-specific projects, including vehicles, fixed guideway, and corridor projects), Demand Response, and Facilities
- Updated the definition of eligible Aviation projects to only consider projects that exceed the system objectives or regulatory requirements for the airport's infrastructure
- No changes were made to Ferry scoring

Other Changes

- Updated the definition of Carryover projects to be automatically evaluated in P5.0
- Updated the number of projects each MPO, RPO, and Division can submit in P5.0

All P5.0 Workgroup recommendations were approved by the Board of Transportation on June 29, 2017.

MPOs, RPOs, and Divisions submitted candidate projects for P5.0 for all six modes during the summer of 2017. The Prioritization Office, in coordination with several other business units, reviewed the projects and associated data to ensure it is was as accurate as possible. The full results of P5.0 and the Draft 2020-2029 State Transportation Improvement Program (STIP) was released on January 10, 2019.

In P5.0, which was implemented in 2017-2018, the Department evaluated over 2,100 projects across all six modes, totaling $61 billion. The resulting Draft 2020-2029 STIP funds 483 projects from P5.0 with an estimated total cost to NCDOT of over $13.5 billion. Of these projects, 109 were previously funded in the 2018-2027 STIP, while 374 projects are newly funded. In addition, 126 projects previously prioritized and funded in the 2018-2027 STIP are not funded in the Draft 2020-2029 STIP, primarily due to scoring changes made from P4.0 to P5.0 and available funding.

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INTRODUCTION

In accordance with the Strategic Transportation Investment (STI) law, *"Beginning December 1, 2016, the Department shall report annually to the Joint Legislative Transportation Oversight Committee on any changes made to the highway or non-highway prioritization process and the resulting impact to the State Transportation Improvement Program"* (G.S. 136-189.11(h)). This report provides an update on the implementation of the Department's Strategic Prioritization Process in accordance with the STI law for 2017. This is the second such report and covers changes made with the implementation of the third cycle in 2017, also known as Prioritization 5.0 (P5.0).

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The Department developed P5.0 in 2016-2017. As in previous prioritization cycles, the Department employed "*the use of a workgroup process to develop improvements to the prioritization process*." Changes were made to "*continually improve the methodology and criteria used to score highway and non-highway projects pursuant to* [the STI law], *including the use of normalization techniques, and methods to strengthen the data collection process"* (G.S. 136-189.11(h)).

The STI law officially established the use of a Prioritization Workgroup process to provide recommendations to the Department on the scoring of capital projects subject to STI. This includes recommendations on the criteria and measures used to evaluate projects, the weights associated with each criteria, and the process submitting and evaluating projects, including the use of local input points. Local input points are most often used to indicate a local area's priority for transportation projects. G.S. 136-189.11(h) officially lists Workgroup participants.

PRIORITIZATION 5.0 WORKGROUP PROCESS

The prioritization process typically occurs every two years. Prioritization 5.0 officially kicked off on October 3, 2016 with the first meeting of the P5.0 Workgroup. See Appendix A for a listing of P5.0 Workgroup members. The Workgroup met 18 times between October 2016 and June 2017, discussing many topics, while ultimately recommending the changes stated below for P5.0. As with previous Workgroups, all recommendations were based on consensus and no votes were taken.

Global Scoring Changes (applies to all 6 modes)

Update the Normalization approach from P4.0 – The Workgroup recommended the following approach for allocating funds between Highway and Non-Highway projects in a transparent manner:

- **Statewide Mobility** – Available funds be allocated to the highest scoring eligible projects, regardless of mode (only certain highway, rail, and aviation projects are eligible in this category).
- **Regional Impact** – A minimum of 4% of available funds be allocated to the highest scoring eligible non-highway projects (statewide competition), a minimum of 90% of available funds be allocated to the highest scoring eligible highway projects (competition within each region), and the remaining 6% of available funds were allocated to the remaining highest scoring projects regardless of mode (competition within each region).
- **Division Needs** – A minimum of 4% of available funds were allocated to the highest scoring eligible non-highway projects (2% is a statewide competition, 2% is a competition with each Division), a minimum of 90% of available funds were allocated to the highest scoring eligible highway projects (competition within each Division), and the remaining 6% of available funds were allocated to the remaining highest scoring projects regardless of mode (competition within each Division). The 2% competition in each Division is new for P5.0 and guarantees that each Division will receive funding for non-highway projects.

Highway Scoring Changes

Safety Criteria – The Workgroup recommended incorporating the expected safety benefits of projects as a measure within this criteria. With the inclusion of these benefits, the Safety criteria measures both the existing conditions through the use of the existing safety scores, along with the expected benefits of implementing the project through the use of the estimated reduction of crashes.

Freight – The Workgroup made arguably the most impactful highway scoring change to this criteria. They recommended removing the distance to the nearest freight terminal and congestion on non-interstate STRAHNet or future interstate routes measured in P4.0 and replacing it with a measure of truck percentage. Together truck volume and truck percentage are used as the primary measures for the Freight criteria, each weighted at 50%. In addition, the Workgroup wanted to reward projects that help bring future interstates up to interstate standards. There are many future interstate routes in North Carolina, which are often the primary routes used for moving long-distance freight. A Future

Interstate Completion Factor is included in the Freight criteria score for eligible projects, measured based on the project length compared to the miles needed to complete the future interstate corridor between National Highway System (NHS) routes. NHS routes were chosen as the limits since once a future interstate is constructed to interstate standards between NHS routes, it can be signed as an actual interstate facility. The Workgroup also recommended that projects which bring roadways currently without full control of access to interstate standards should be rewarded more points than projects that bring existing freeways (already with full control of access) to interstate standards. The Workgroup recommended that the max value for the Future Interstate Completion Factor should be 25.

Economic Competitiveness – The Workgroup continued to support the use of TREDIS in generating the measures for the Economic Competitiveness criteria. However, they recommended one change for P5.0. Instead of measuring the actual number of long-term jobs expected as a result of the project, the recommendation was changed to measure the percent change in the expected long-term jobs. This revised measure, along with the percent change in the local economy both consider the impact of the project relative to the area in which the project is located.

Multimodal – The Workgroup made a wholesale change to the purpose of this criteria. In P4.0 the purpose was to measure congestion along routes that provide a connection to multimodal passenger terminals. Overall, the Workgroup felt there were too many criteria that incorporated a measure of congestion. For P5.0, the Workgroup instead recommended that the purpose of the Multimodal criteria is to measure the degree in which the highway project benefits other modes. Multimodal points are calculated for each project based on the sum of the total benefits to other modes. Benefit points are awarded based on:

- Proximity to airports, ferry terminals, ports, intermodal terminals, passenger bus or rail stations, park & ride lots, and military bases
- If the project includes bicycle and/or pedestrian accommodations, transit roadway components (bus-on-shoulder, pullouts, signal prioritization, etc), and/or managed lanes

Using the updated criteria and measures, the Workgroup recommended the criteria and weights for scoring highway projects in P5.0, as shown in Figure 1 on page 7, which changed from P4.0. The table includes the P4.0 measures and weights for comparison.

Aviation Scoring Changes

The Workgroup believed the criteria and measures used in P4.0 work well and recommended only a minor change for P5.0. In the denominator of the Benefit/Cost criteria, they recommended that the cost used is the cost of the project to NCDOT, similar to how the Benefit/Cost criteria is used in scoring projects in other modes.

The Workgroup recommended the criteria and weights for scoring aviation projects in P5.0, as shown in Figure 2 on page 9, which did not change from P4.0. The table includes the P4.0 measures and weights for comparison.

Bicycle & Pedestrian Scoring Changes

The Workgroup believed the criteria and measures used in P4.0 generally work well and recommended only a few minor changes for P5.0. A new crash severity measure was added to the Safety criteria, which will provide an indication of the severity of existing vehicular and bicycle or pedestrian crashes along the route. The Workgroup also recommended rewarding projects that are apart of or provide a connection to a national/state/regional route bike, and projects that specifically provide a grade separated facility over or under a roadway. Both of these recommendations resulted in an updated calculation of points in the Connectivity criteria and safety benefits measure in the Safety criteria.

Using the update criteria and measures, the Workgroup recommended the criteria and weights for scoring bicycle & pedestrian projects in P5.0, as shown in Figure 3 on page 10, which did not change from P4.0. The table includes the P4.0 measures and weights for comparison.

Ferry Scoring Changes

The Workgroup believed the criteria and measures used in P4.0 work well and did not recommend any changes for P5.0. The Workgroup recommended the criteria and weights for scoring ferry projects in P5.0, as shown in Figure 4 on page 11. The table includes the P4.0 measures and weights for comparison.

Public Transportation Scoring Changes

The Workgroup spent the most time in P5.0 discussing the scoring of public transportation projects. This is primarily due to the diversity of project types and attempting to measure them all using the same criteria and weights. After much Workgroup discussion, including several additional meetings of Workgroup members and transit stakeholders, the Workgroup recommended that public transportation projects be categorized into three groups:

- Mobility – route specific projects, such as new or expansion vehicles, light rail, commuter rail, bus rapid transit, or bus-on-shoulder-system projects
- Demand-Response – demand response expansion vehicles
- Facility – all facilities (except those bundled with a mobility project) including passenger stations, stops/shelters, park-and-ride lots, and administrative or maintenance buildings

The names of the criteria are same within each group, however they are measured differently due to the data availability.

Using the updated criteria and measures, the Workgroup recommended the criteria and weights for scoring public transportation projects in P5.0, as shown in Figure 5 on page 12, which changed from P4.0. The table includes the P4.0 measures and weights for comparison.

Rail Scoring Changes

The Workgroup believed the criteria and measures used in P4.0 generally work well and recommended only a few minor changes for P5.0. The biggest change was reorganizing and clarifying the different measures used in scoring. Some measures were renamed, while others were moved to different criteria in order to be more consistent with the scoring for other modes. Two new measures were added: a multimodal score was added to the newly named System Opportunities measure, which rewards projects that provide benefits to other modes; and a highway diversion measure was added to the newly named Capacity and Diversion criteria which measures the estimated truck volume or passenger car reduction that will be diverted from highways onto rail due to a project.

Using the updated criteria and measures, the Workgroup recommended the criteria and weights for scoring rail projects in P5.0, as shown in Figure 6 on page 15, which changed from P4.0. The table includes the P4.0 measures and weights for comparison.

Project Database Changes

Projects to evaluate in P5.0 – There are two types of projects evaluated in P5.0: carryover projects and submittals. The Workgroup recommended the following for each:

Carryover Projects – These projects were evaluated in the previous Prioritization cycle and are automatically evaluated in the subsequent cycle if they met at least one of the following requirements:

- Projects programmed first funded in the 2018-2027 STIP for Right-of-Way or Construction in fiscal year 2023 and later (projects programmed in the last five years of the STIP).
- Projects with a NEPA document completed within the last ten years (after January 1, 2007), or one where the environmental document is actively begin worked on
- Siblings of programmed projects, where for example, section A of a project is programmed, sections B, C, & D would be considered a carryover project

The Workgroup recommended removing the assignment of local input points for defining carryover projects as used during the P4.0 cycle.

Modifications of carryover projects are allowed; however those that split a project into two or more projects count towards the number of submittals each area is allocated. Areas would receive an extra submittal if Carryover projects are combined or deleted. This provides MPOs, RPOs, and Divisions an opportunity to evaluate different segments or intersections separately from a larger project, as long as there is agreement between the respective MPOs/RPOs and Divisions.

Submittals – The Workgroup recommended a revised approach for determining the number of projects each MPO and RPO could submit for P5.0. This approach is based on each MPO and RPO having a minimum of 12 project submittals, plus:

- one additional submittal for every 50,000 people in their geographic area
- one additional submittal for every 500 centerline miles in their geographic area

There is no maximum value based on this approach (as had been the case in P4.0).

The Workgroup recommended a different approach for the number of projects each Division could submit, in order to help limit the number of projects evaluated in P5.0. They recommended that each Division could submit up to 14 projects, which is double the number from P4.0.

The number of submittals for MPOs, RPOs, and Divisions is the same for each mode for consistency. In addition, each MPO, RPO, and Division could gain additional submittals for every carryover project removed from the database, as long as both the MPO/RPO and Division agreed on the project removal. Submittals are comprised of both brand new projects that have not previously been evaluated in a prioritization cycle and projects that were previously evaluated but are not considered a carryover project. See Appendix B for the listing of the number of submittals for each MPO, RPO, and Division.

Local Input Points

The Workgroup recommended continuing to use the approach from P4.0 to determine the local input points in both the Regional Impact and Division Needs categories allocated to each MPO, RPO, and Division. Each MPO, RPO, and Division received a minimum of 1,000 points, plus an additional 100 points for every 50,000 people in their geographic area, up to a maximum of 2,500 points. Each entity receives a separate allocation but the same number of points for both the Regional Impact and Division Needs categories. Appendix B also lists the number of local input points for each MPO, RPO, and Division.

The Workgroup also recommended to hold separate time periods for assigning points in the Regional Impact and Division Needs categories, similar to the P4.0 process. This allowed MPOs, RPOs, and Divisions to see which projects were funded in the Regional Impact category (and therefore not cascade down) prior to submitting local input points in the Division Needs category. To improve coordination on the assignment of points between MPOs, RPOs, and Divisions, the Regional Impact period was over 120 days, while the Division Needs period was originally planned for 60 days.

In accordance with GS 136-18.42, MPOs and RPOs are required to have a formal methodology approved by NCDOT for assigning local input points. Most MPOs and RPOs updated their methodologies from P4.0, all of which were reviewed and approved by a NCDOT-led local input point methodology review committee, which included representatives from MPOs and RPOs. The Division Engineers also have a formal process for assignment points. The committee also reviewed their updated methodology for P5.0.

Comparison of Criteria, Measures and Weights between P5.0 and P4.0 for All Modes

Figure 1: Highway Scoring Criteria, Measures, and Weights

Criteria	P5.0 Measure(s)	P5.0 Weights			P4.0 Measure(s)	P4.0 Weights		
		SW	REG	DIV		SW	REG	DIV
Congestion	• Volume-to-Capacity Ratio • Volume	30%	20%	15%	• Volume-to-Capacity Ratio • Volume	30%	20%	15%
Benefit/Cost	• Travel Time Savings + Safety Benefits • Cost of Project to NCDOT • % Local Contribution	25%	20%	15%	• Travel Time Savings + Safety Benefits • Cost of Project to NCDOT • % Local Contribution	25%	20%	15%
Safety	• Critical Crash Rates, Crash Severity, Crash Density (segments) • Crash Frequency, Severity Index (intersections) • Safety Benefits	10%	10%	10%	• Critical Crash Rates, Crash Severity, Crash Density (segments) • Crash Frequency, Severity Index (intersections)	15%	10%	10%
Economic Comp.	• % Change in Long-term Jobs • % Change in County Economy	10%	N/A	N/A	• Long-term Jobs Expected • % Change in County Economy	10%	N/A	N/A
Multimodal	• Multimodal Benefits	N/S	N/S	N/S	• Congestion on Route near Multimodal Passenger Terminal • Distance to nearest Multimodal Terminal	5%	N/S	N/S
Freight	• Truck Volumes • Truck Percentage • Future Interstate Completion Factor	25%	10%	5%	• Truck Volumes • Congestion on non-Interstate STRAHNET or Designated Future Interstate Route • Distance to nearest Freight Terminal	15%	10%	5%
Accessibility / Connectivity	• County Economic Indicator • Does the Project Upgrade how the Roadway Functions? (Improve Mobility)	N/A	10%	5%	• County Economic Indicator • Does the Project Upgrade how the Roadway Functions?	N/A	10%	5%
Lane Width	• Comparison of Existing Conditions to DOT Design Standard	N/S	N/S	N/S	• Comparison of Existing Conditions to DOT Design Standard	N/S	N/S	N/S
Shoulder Width	• Comparison of Existing Conditions to DOT Design Standard	N/S	N/S	N/S	• Comparison of Existing Conditions to DOT Design Standard	N/S	N/S	N/S
Pavement Condition	• Pavement Condition Rating	N/S	N/S	N/S	• Pavement Condition Rating	N/S	N/S	N/S

Note: Figure 1 lists the default criteria, measures, and weights for evaluating highway projects. In both P4.0 and P5.0, Regions and Divisions were allowed to use Alternative Criteria, as long as all MPOs, RPOs, and Divisions (within the Region or Division) were in agreement. With Alternate Criteria, the entities within a Region or Division can select different criteria (than the defaults above) and/or assign different weights to the criteria. However, the measure is the same for each criteria across the state. In P4.0, entities within Region B, and Divisions 2, 3 and 6 agreed to the use of Alternate Criteria. In P5.0, entities within Region A, and Divisions 1, 5, 6, 7, 8, 11, 13 and 14 agreed to the use of Alternate Criteria.

N/A = Not Applicable based on the STI law

N/S = Considered, but Not Selected by the Workgroup for use in evaluating projects

Figure 2: Aviation Scoring Criteria, Measures, and Weights

Criteria	P5.0 Measure(s)	P5.0 Weights			P4.0 Measure(s)	P4.0 Weights		
		SW	REG	DIV		SW	REG	DIV
NCDOA Project Rating	• NCDOA Project Rating (reflects updated System Plan)	40%	30%	25%	• NCDOA Project Rating (reflects updated System Plan)	40%	30%	25%
FAA ACIP Rating	• Federal Aviation Administration Airport Capital Improvement Plan (ACIP) rating	10%	5%	10%	• Federal Aviation Administration Airport Capital Improvement Plan (ACIP) rating	10%	5%	10%
Non-State Contribution Index	• Local, federal, or private funds toward the project • State funds toward the project	30%	20%	5%	• Local, federal, or private funds toward the project • State funds toward the project	30%	20%	5%
Benefit/Cost	• Total $ Econ. Contribution of Tier • Total # of Instrument Flight Rule (IFR) Ops of Tier • NCDOA Capital Project Rating • Project Cost to NCDOT	20%	15%	10%	• Total $ Econ. Contribution of Tier • Total # of Instrument Flight Rule (IFR) Ops of Tier • NCDOA Capital Project Rating • Total Project Cost	20%	15%	10%

NCDOA = NC Division of Aviation

Figure 3: Bicycle and Pedestrian Scoring Criteria, Measures, and Weights

Criteria	P5.0 Measure(s)	P5.0 Weight DIV	P4.0 Measure(s)	P4.0 Weight DIV
Safety	• Number of crashes • Posted speed limit • Crash Severity • Project safety benefit	15%	• Number of crashes • Posted speed limit • Project safety benefit	15%
Access	• Destination Type within buffer • Distance to Prime Destination	10%	• Destination Type within buffer • Distance to Prime Destination	10%
Demand / Density	• Number of households within buffer • Number of employees within buffer ~Added factor for unoccupied housing units (second homes) + group housing, excluding prisons)	10%	• Number of households within buffer • Number of employees within buffer • ~Added factor for unoccupied housing units (second homes) + group housing, excluding prisons)	10%
Connectivity	• Specific Improvement Type • Degree of bike/ped separation from roadway • Connectivity to a similar/better project type • Connection to national/state/regional bike route	10%	• Specific Improvement Type • Degree of bike/ped separation from roadway • ADA compliance Connectivity to a similar/better project type	10%
Cost Effectiveness	• Safety score • Access score • Demand / Density score • Connectivity score • Estimated Project Cost to NCDOT	5%	• Safety score • Access score • Demand / Density score • Connectivity score Estimated Project Cost to NCDOT	5%

Figure 4: Ferry Scoring Criteria, Measures, and Weights

Criteria	P5.0 Measure(s)	P5.0 Weights		P4.0 Measure(s)	P4.0 Weights	
		REG	DIV		REG	DIV
Asset Condition	• Asset Condition Rating	15%	15%	• Asset Condition Rating	15%	15%
Benefits	• Monetized value of number of hours saved	10%	10%	• Monetized value of number of hours saved	10%	10%
Accessibility / Connectivity	• Number of points of interest within 3 concentric rings of the route	10%	10%	• Number of points of interest within 3 concentric rings of the route	10%	10%
Asset Efficiency	• 3-year maintenance cost • Pro-rated 3-year replacement cost	15%	15%	• 3-year maintenance cost • Pro-rated 3-year replacement cost	15%	15%
Capacity / Congestion	• Number of vehicles left behind at each departure • Total number of vehicles loaded and carried by the route	20%	N/S	• Number of vehicles left behind at each departure • Total number of vehicles loaded and carried by the route	20%	N/S

Figure 5: Public Transportation Scoring Criteria, Measures, and Weights

Public Transportation – Mobility

Criteria	P5.0 Measure(s)	P5.0 Weights		P4.0 Measure(s)	P4.0 Weights	
		REG	DIV		REG	Div
Impact	• Number of trips affected by the project	15%	10%	Not used		
Demand / Density	• Total trips • Service population	20%	10%	Not used		
Efficiency	• Total trips • Total revenue seat hours	10%	10%	Not used		
Cost Effectiveness	• Additional trips • Cost to the State • Lifespan of project	25%	20%	Not used		
Access	Not used			• Annual OpStat reported hours • Vehicles in Fleet	10%	5%
System Safety	Not used			• OpStat reported miles • 3 Year average of incidents	10%	10%
Impact	Not used			• Unlinked annual passenger trips • Projected new unlinked annual passenger trips	20%	15%
Cost Effectiveness	Not used			• Projected new annual unlinked passenger trips • Cost to the State	20%	15%
Market Share	Not used			• Unlinked annual passenger trips • Projected new unlinked annual passenger trips • Service area population	10%	5%

Public Transportation – Demand Response

Criteria	P5.0 Measure(s)	P5.0 Weights		P4.0 Measure(s)	P4.0 Weights	
		REG	DIV		REG	Div
Impact	• Number of trips affected by the project	10%	10%	Not used		
Demand / Density	• Total trips with project in place • Service population	20%	15%	Not used		
Efficiency	• Vehicle utilization ratio	15%	10%	Not used		
Cost Effectiveness	• Additional trips • Cost to the State • Lifespan of project	25%	15%	Not used		

Public Transportation – Facilities

Criteria	P5.0 Measure(s)	P5.0 Weights		P4.0 Measure(s)	P4.0 Weights	
		REG	DIV		REG	DIV
Impact	• Number of trips affected by the project	20%	15%	Not used		
Demand / Density	• Rider growth trend for the previous 5 years	10%	10%	Not used		
Efficiency	• Efficiency score	15%	10%	Not used		
Cost Effectiveness	• Additional trips • Cost to the State • Lifespan of project	25%	15%	Not used		
Impact (or) Age	Not used			• Unlinked Annual Passenger Trips • Projected New Unlinked Annual Passenger Trips • Additional capacity • Existing capacity • Age of facility	20%	15%
Cost Effectiveness	Not used			• Unlinked Annual Passenger Trips • Cost to the State	20%	15%
Market Share	Not used			• Unlinked Annual Passenger Trips • Projected New Unlinked Annual Passenger Trips • Service Area Population	15%	10%
Ridership Growth	Not used			• Ridership Growth Trend for previous 5 years	15%	10%

Figure 6: Rail Scoring Criteria, Measures, and Weights

Criteria	P5.0 Measure(s)	P5.0 Weights			P4.0 Measure(s)	P4.0 Weight		
		SW	REG	DIV		SW	REG	DIV
Benefit-Cost	• Benefit-Cost score	35%	25%	10%	Not Used in P4.0			
System Opportunities	• Accessibility / Connectivity score • Multimodal score	15%	10%	15%	Not Used in P4.0			
Safety	• Safety score	30%	15%	10%	Not Used in P4.0			
Capacity and Diversion	• Volume/Capacity score • Highway Diversion score	10%	10%	10%	Not Used in P4.0			
Economic Competitiveness	• Economic Competitiveness score	10%	10%	5%	Not Used in P4.0			
Cost Effectiveness	Not Used in P5.0				• Return on Investment Index • Regional Job Creation Index	35%	25%	20%
System Health	Not Used in P5.0				• Capacity Index • Accessibility/Connectivity Index	35%	20%	10%
Safety and Suitability	Not Used in P5.0				• Safety Index	20%	15%	10%
Project Support	Not Used in P5.0				• Funding Leverage Index	10%	10%	10%

PRIORITIZATION 5.0 IMPLEMENTATION

MPOs, RPOs, and Divisions submitted candidate projects for P5.0 for all six modes (Aviation, Bicycle & Pedestrian, Ferry, Highway, Public Transportation, and Rail) during the period of July 5th through September 29th, 2017, using the SPOT On!ine application, which was updated for P5.0. Following the submittal of projects, the Prioritization Office, in coordination with several other business units, reviewed and updated the data associated with each project to ensure it was as accurate as possible. Project submitters (MPOs, RPOs, and Divisions) had an opportunity to review any updated data as well. Once the data was considered clean, scores were updated as needed. All projects were scored using the criteria and weights approved by the BOT in July 2017 (see Appendix C). The quantitative scores for all projects and the top-scoring projects funded in the Statewide Mobility category were released on April 3, 2018 in user-friendly spreadsheets.

As recommended by the Workgroup and approved by the BOT, each MPO, RPO, and Division had two time periods to assign local input points. Each entity assigned their Regional Impact local input points between April 3rd and July 27th, 2018 based on their approved methodologies. In August 2018, the Prioritization Office first calculated the total scores for all Regional Impact projects, then the TIP Unit developed the draft list of funded Regional Impact projects. The final scores and list of funded projects were released on September 4, 2018.

The Division Needs local input point assignment period was originally scheduled from September 4th to November 2nd, however due to the flooding and damage experienced from Hurricane Florence, this period was extended to November 30th. Following the submittal of the Division Needs local input points, the Prioritization Office calculated the total scores for all Division Needs projects.

During November and December 2018, the Department's TIP Unit developed the draft list of funded Division Needs projects. Similar to P3.0 and P4.0, the TIP Unit developed the Draft 2020-2029 STIP, using the prioritization results as the primary input in determining the funded projects. Other factors considered are:

- Normalization approach for allocating funds between highway and non-highway projects
- Funds allocated to transition projects (projects let between October 1, 2013 and July 1, 2015)
- Provisions in the STI law such as corridor caps and caps affecting non-highway projects
- Project delivery time
- Funding availability for each STI category

PRIORITIZATION 5.0 RESULTS

The Draft 2020-2029 STIP, based on P5.0, was released on January 10, 2019. Following public comment meetings in February, March, and April 2019, the Final 2020-2029 STIP is anticipated to be approved by the BOT at their June 2019 meeting.

A total of over 2,100 projects were evaluated in P5.0, with a total cost to NCDOT of over $61 billion. These projects were generally considered for programming for the time period of 2023-2029 (projects in 2020-2022 of the previous 2018-2027 STIP were considered committed and were not evaluated in P5.0). The breakdown of P5.0 evaluated and programmed projects by mode is shown below in Figure 7.

Figure 7: P5.0 Projects Evaluated by Mode with 2020-2029 Draft STIP Programmed Amounts

Mode	Total P5.0 Projects Evaluated	Cost to NCDOT ($ million)	Total P5.0 Projects Programmed in 2020-2029 Draft STIP	Amount Programmed to P5.0 Projects in 2020-2029 Draft STIP ($ million)
Highway	1,204	$54,066	332	$12,669
Aviation	190	$551	41	$70
Bicycle & Pedestrian	513	$642	70	$72
Ferry	9	$118	4	$44
Public Transportation	106	$1,600	14	$262
Rail	108	$4,436	22	$440
Total	**2,130**	**$61,413**	**483**	**$13,557**

APPENDIX A – P5.0 WORKGROUP MEMBERS

Full Name	Organization/Unit	Member Type
Bryant Buck	North Carolina Regional Council of Governments	Participant
Chris Lukasina	Capital Area MPO	Participant
Dana Stoogenke	Rocky River RPO	Participant
David Wasserman	NCDOT Prioritization Office (SPOT)	Participant
Elizabeth Jernigan	Northwest Piedmont RPO	Participant
Erin Wynia	North Carolina League of Municipalities	Participant
Glenn Mumford	NCDOT Preconstruction	Participant
Greg Burns	NCDOT Division Six Engineer	Participant
Jamal Alavi	NCDOT Transportation Planning Branch	Participant
Jason Schronce	NCDOT Prioritization Office (SPOT)	Participant
Jerry Jennings	NCDOT Division One Engineer	Participant
Johanna Reese	North Carolina Association of County Commissioners	Participant
Julie White	North Carolina Metropolitan Mayor's Coalition	Participant
Karyl Fuller	Isothermal RPO	Participant
Mark Stafford	NCDOT Division Twelve Engineer	Participant
Neil Burke	Charlotte Regional Transportation Planning Org.	Participant
Patrick Flanagan	Eastern Carolina RPO	Participant
Patrick Ivey	NCDOT Division Nine Engineer	Participant
Paul Worley	NCDOT - Non-highway modes	Participant
Peggy Holland	Jacksonville Urban Area MPO	Participant
Ron Hancock	NCDOT Chief Engineer's Office	Participant
Sarah Lee	NCDOT Prioritization Office (SPOT)	Participant
Tyler Meyer	Greensboro Urban Area MPO	Participant
Van Argabright	NCDOT Program Development Branch	Participant
Donna Dancausse	Federal Highway Administration	Facilitator
Amna Cameron	Legislative Staff	Advisory
Charles Edwards	NCDOT Strategic Planning/Logistics	Advisory
Frank Winn	NCDOT IT	Advisory
George Hoops	Federal Highway Administration	Advisory
Jason Gray	NC Rural Center	Advisory
Josh Levy	Department of Commerce	Advisory
Leigh Wing	NCDOT - Chief Engineer's Office	Advisory
Mary Jennings	Legislative Staff - House	Advisory
Stephanie Ayers	NC State Ports Authority	Advisory
Steve Ogden	Legislative Staff - Senate	Advisory
Kristen Wallace	NCDOT Chief Engineer’s Office	Administrative

APPENDIX B – P5.0 PROJECT SUBMITTAL AND LOCAL INPUT POINT ALLOCATIONS

MPO/RPO Name	2015 Census Pop.	Population (Nearest 50,000)	Centerline Miles rounded to nearest 500	Maximum New Submittal	Local Input Points
Albemarle RPO	171,918	150,000	3,000	**21**	1,300
Burlington-Graham MPO	165,717	150,000	1,000	**17**	1,300
Cabarrus Rowan MPO	326,757	350,000	2,000	**23**	1,700
Cape Fear RPO	136,970	150,000	2,000	**19**	1,300
Capital Area MPO	1,158,115	1,150,000	4,000	**43**	2,500
Charlotte Regional TPO	1,351,361	1,350,000	3,500	**46**	2,500
Down East RPO	183,615	200,000	2,000	**20**	1,400
Durham-Chapel Hill-Carrboro MPO	424,400	400,000	1,500	**23**	1,800
East Carolina RPO	172,709	150,000	3,000	**21**	1,300
Fayetteville Area MPO	382,323	400,000	1,500	**23**	1,800
French Broad River MPO	403,165	400,000	2,500	**25**	1,800
Gaston-Cleveland-Lincoln MPO	386,028	400,000	3,000	**26**	1,800
Goldsboro Urban Area MPO	91,983	100,000	500	**15**	1,200
Grand Strand Trans. Study Area	39,093	50,000	500	**14**	1,100
Greater Hickory MPO	363,545	350,000	3,000	**25**	1,700
Greensboro Urban Area MPO	383,333	400,000	1,500	**23**	1,800
Greenville Urban Area MPO	132,021	150,000	500	**16**	1,300
High Country RPO	209,782	200,000	4,000	**24**	1,400
High Point Urban Area MPO	289,020	300,000	2,000	**22**	1,600
Isothermal RPO	132,244	150,000	2,000	**19**	1,300
Jacksonville Urban MPO	141,503	150,000	500	**16**	1,300
Kerr-Tar RPO	164,851	150,000	3,000	**21**	1,300
Land-of-Sky RPO	66,918	50,000	1,000	**15**	1,100
Lumber River RPO	228,864	250,000	3,500	**24**	1,500
Mid-Carolina RPO	183,807	200,000	3,500	**23**	1,400
Mid-East RPO	113,090	100,000	2,000	**18**	1,200
New Bern MPO	54,414	50,000	500	**14**	1,100
Northwest Piedmont RPO	169,434	150,000	3,000	**21**	1,300
Peanut Belt RPO	119,247	100,000	2,500	**19**	1,200
Piedmont Triad RPO	250,859	250,000	4,000	**25**	1,500
Rocky Mount Urban Area MPO	80,910	100,000	500	**15**	1,200
Rocky River RPO	104,205	100,000	2,000	**18**	1,200
Southwestern RPO	135,358	150,000	2,500	**20**	1,300
Triangle Area RPO	218,640	200,000	3,000	**22**	1,400
Upper Coastal Plain RPO	227,090	250,000	3,000	**23**	1,500
Wilmington Urban Area MPO	264,622	250,000	1,000	**19**	1,500
Winston Salem Urban Area MPO	417,420	400,000	1,500	**23**	1,800

Division	2015 Census Pop.	Population (Nearest 50,000)	Centerline Miles rounded to nearest 500	Maximum New Submittal	Local Input Points
01	261,502	260,000	5,183	**14**	1,500
02	497,440	500,000	5,046	**14**	2,000
03	691,381	700,000	5,580	**14**	2,400
04	587,606	590,000	6,358	**14**	2,200
05	1,489,471	1,490,000	6,564	**14**	2,500
06	675,769	680,000	6,216	**14**	2,400
07	916,214	900,000	5,448	**14**	2,500
08	521,702	500,000	6,885	**14**	2,000
09	752,181	750,000	5,076	**14**	2,500
10	1,478,243	1,480,000	5,022	**14**	2,500
11	369,835	350,000	5,973	**14**	1,700
12	743,884	750,000	6,132	**14**	2,500
13	502,568	500,000	5,096	**14**	2,000
14	357,536	350,000	4,909	**14**	1,700

Notes:

- MPOs/RPOs receive a minimum 12 new project submittals for each mode
- MPOs/RPOs receive an additional submittal per 50,000 people
- MPOs/RPOs receive an additional submittal per 500 Centerline miles

- All Areas receive a minimum of 1,000 points
- Areas receive an additional 100 points per 50,000 people
- Maximum number of local input points is 2,500
- Population is rounded to nearest 50,000 people to determine # of local input points for each MPO/RPO or Division
- Areas receive separate allocation of local input points for Regional Impact and Division Needs funding categories (amount of points is the same for each)

- MPO/RPO boundaries are be based on official 2015 boundaries.

APPENDIX C – P5.0 SCORING CRITERIA, MEASURES, AND WEIGHTS FOR ALL MODES

Highway Scoring

Funding Category	Quantitative Data	Local Input	
		Division Input	MPO/RPO Input
Statewide Mobility	**Congestion = 30%** • Measurement of the traffic volume (accounting for seasonal traffic) on the roadway compared to the existing capacity of the roadway, weighted by the traffic volume (accounting for seasonal traffic) along the roadway. **Benefit/Cost = 25%** • Measurement of travel time savings and safety benefits the project is expected to provide over 10 years compared to the cost of the project to NCDOT, and the amount of other/local funds compared to the total project cost. **Freight = 25%** • Measurement of truck volume and truck percentage of total traffic on the roadway, and the degree the project is helping to complete a future interstate corridor (if applicable). **Safety = 10%** • Measurement of the existing severity, frequency, and rate of crashes along the roadway and the safety benefits the project is expected to provide over 10 years. **Economic Competitiveness = 10%** • Measurement of the estimated percent change in economic activity within the county and the percent change in the number of long term jobs that the project is expected to provide over 10 years. **Total = 100%**	--	--
Regional Impact	**Congestion = 20%** • Measurement of the traffic volume (accounting for seasonal traffic) on the roadway compared to the existing capacity of the roadway, weighted by the traffic volume (accounting for seasonal traffic) along the roadway. **Benefit/Cost = 20%** • Measurement of travel time savings and safety benefits the project is expected to provide over 10 years compared to the cost of the project to NCDOT, and the amount of other/local funds compared to the total project cost. **Safety = 10%** • Measurement of the existing severity, frequency, and rate of crashes along the roadway and the safety benefits the project is expected to provide over 10 years. **Accessibility/Connectivity = 10%** • Measurement of county economic distress indicators and the degree the project upgrades mobility of the roadway, with the goal of improving access to opportunity in rural and less-affluent areas and improving interconnectivity of the transportation network. **Freight = 10%** • • Measurement of truck volume and truck percentage of total traffic on the roadway, and the degree the project is helping to complete a future interstate corridor (if applicable). **Total = 70%**	**15%**	**15%**

Division Needs	**Congestion = 15%** • Measurement of the traffic volume (accounting for seasonal traffic) on the roadway compared to the existing capacity of the roadway. **Benefit/Cost = 15%** • Measurement of travel time savings and safety benefits the project is expected to provide over 10 years compared to the cost of the project to NCDOT, and the amount of other/local funds compared to the total project cost. **Safety = 10%** • Measurement of the existing severity, frequency, and rate of crashes along the roadway and the safety benefits the project is expected to provide over 10 years. **Accessibility/Connectivity = 5 %** • Measurement of county economic distress indicators and the degree the project upgrades mobility of the roadway, with the goal of improving access to opportunity in rural and less-affluent areas and improving interconnectivity of the transportation network. **Freight = 5%** • Measurement of truck volume and truck percentage of total traffic on the roadway, and the degree the project is helping to complete a future interstate corridor (if applicable). **Total = 50%**	**25%**	**25%**

Note: Regions and/or Divisions may approve different criteria and weights for their respective areas.

Aviation Scoring

Funding Category	Quantitative Data	Local Input	
		Division Input	MPO/RPO Input
Statewide Mobility	**NCDOA Project Rating = 40%** • Scores projects based on project categories within the NC Airports System Plan, developed by the NCDOT Division of Aviation (DOA). Points are assigned based on priority and need of the project.. **Non-State Contribution Index = 30%** • Measurement of the project's federal, local, or private funding contributions compared to the requested state funds. **Benefit/Cost = 20%** • Measurement of the project's total economic contribution compared to the cost of the project to NCDOT. **FAA ACIP Rating = 10%** • Scores projects based on ratings within the Federal Aviation Administration (FAA) Airport Capital Improvement Plan (ACIP). Ratings are based on critical airport development and capital needs for the National Airspace System (NAS). **Total = 100%**	--	--
Regional Impact	**NCDOA Project Rating = 30%** • Scores projects based on project categories within the NC Airports System Plan, developed by the NCDOT Division of Aviation (DOA). Points are assigned based on priority and need of the project. **Non-State Contribution Index = 20%** • Measurement of the project's federal, local, or private funding contributions compared to the requested state funds. **Benefit/Cost = 15%** • Measurement of the project's total economic contribution compared to the cost of the project to NCDOT. **FAA ACIP Rating = 5%** • Scores projects based on ratings within the Federal Aviation Administration (FAA) Airport Capital Improvement Plan (ACIP). Ratings are based on critical airport development and capital needs for the National Airspace System (NAS). **Total = 70%**	**15%**	**15%**
Division Needs	**NCDOA Project Rating = 25%** • Scores projects based on project categories within the NC Airports System Plan, developed by the NCDOT Division of Aviation (DOA). Points are assigned based on priority and need of the project. **Benefit/Cost = 10%** • Measurement of the project's total economic contribution compared to the cost of the project to NCDOT. **FAA ACIP Rating = 10%** • Scores projects based on ratings within the Federal Aviation Administration (FAA) Airport Capital Improvement Plan (ACIP). Ratings are based on critical airport development and capital needs for the National Airspace System (NAS). **Non-State Contribution Index = 5%** • Measurement of the project's federal, local, or private funding contributions compared to the requested state funds. **Total = 50%**	**25%**	**25%**

Bicycle & Pedestrian Scoring

Funding Category	Quantitative Data	Local Input	
		Division Input	MPO/RPO Input
Division Needs	**Safety = 15%** • Measurement of the number of bicycle and pedestrian crashes, speed limit of the roadway, severity of the crashes, and safety benefit the project is expected to provide. **Access = 10%** • Measurement of the quantity and significance of destinations near the project as well as the distance to the primary destination. **Demand/Density = 10%** • Measurement of the population and employment density within a walkable or bikeable distance of the project. **Connectivity = 10%** • Measurement of the degree of separation between the project and the roadway, connectivity to a similar or better project type, and whether the project includes or connects to a national, state, or regional bicycle route. **Cost Effectiveness = 5%** • Measurement of total Safety, Access, Demand/Density, and Connectivity criteria scores compared to the cost of the project to NCDOT. **Total = 50%**	**25%**	**25%**

Ferry Scoring

Funding Category	Quantitative Data	Local Input	
		Division Input	MPO/RPO Input
Regional Impact	**Capacity/Congestion = 20%** • Measurement of the number of vehicles left behind at each departure compared to the total number of vehicles loaded and carried by the route. **Asset Condition = 15%** • Measurement of the asset condition rating by the NCDOT Ferry Division. **Asset Efficiency = 15%** • Measurement of the cost effectiveness of continued maintenance of the asset compared to replacement of the asset. **Benefits = 10%** • Measurement of the monetized value of the number of hours saved by utilizing the ferry route instead of taking the shortest alternative roadway route. **Accessibility/Connectivity = 10%** • Measurement of the number of jobs, services, and other points of interest near the project. **Total = 70%**	**15%**	**15%**
Division Needs	**Asset Condition = 15%** • Measurement of the asset condition rating by the NCDOT Ferry Division. **Asset Efficiency = 15%** • Measurement of the cost effectiveness of continued maintenance of the asset compared to replacement of the asset. **Benefits = 10%** • Measurement of the monetized value of the number of hours saved by utilizing the ferry route instead of taking the shortest alternative roadway route. **Accessibility/Connectivity = 10%** • Measurement of the number of jobs, services, and other points of interest near the project. **Total = 50%**	**25%**	**25%**

Public Transportation Scoring (Mobility / Route-Specific)

Funding Category	Quantitative Data	Local Input	
		Division Input	MPO/RPO Input
Regional Impact	**Cost Effectiveness = 25%** • Measurement of the trips generated by the project in 10 years compared to the cost of the project to NCDOT (annualized by the lifespan of the project). **Demand/Density = 20%** • Measurement of the total trips along the project route in 10 years compared to the service area population for the project route. **Impact = 15%** • Measurement of the trips generated and relieved by the project in 10 years. **Efficiency = 10%** • Measurement of the total trips along the project route in 10 years compared to the total revenue seat hours of the project route in 10 years. **Total = 70%**	**15%**	**15%**
Division Needs	**Cost Effectiveness = 20%** • Measurement of the trips generated by the project in 10 years compared to the cost of the project to NCDOT (annualized by the lifespan of the project). **Impact = 10%** • Measurement of the trips generated and relieved by the project in 10 years. **Demand/Density = 10%** • Measurement of the total trips along the project route in 10 years compared to the service area population for the project route. **Efficiency = 10%** • Measurement of the total trips along the project route in 10 years compared to the total revenue seat hours of the project route in 10 years. **Total = 50%**	**25%**	**25%**

Public Transportation Scoring (Demand-Response)

Funding Category	Quantitative Data	Local Input	
		Division Input	MPO/RPO Input
Regional Impact	**Cost Effectiveness = 25%** • Measurement of the trips generated by the project in 10 years compared to the cost of the project to NCDOT (annualized by the lifespan of the project). **Demand/Density = 20%** • Measurement of the total operating hours of the system in 10 years compared to the service area population for the system. **Efficiency = 15%** • Measurement of the number of vehicles in maximum service by the system compared to the total number of vehicles in the fleet (utilization ratio). **Impact = 10%** • Measurement of the trips generated by the project in 10 years. **Total = 70%**	**15%**	**15%**
Division Needs	**Cost Effectiveness = 15%** • Measurement of the trips generated by the project in 10 years compared to the cost of the project to NCDOT (annualized by the lifespan of the project). **Demand/Density = 15%** • Measurement of the total operating hours of the system in 10 years compared to the service area population for the system. **Efficiency = 10%** • Measurement of the number of vehicles in maximum service by the system compared to the total number of vehicles in the fleet (utilization ratio). **Impact = 10%** • Measurement of the trips generated by the project in 10 years. **Total = 50%**	**25%**	**25%**

Public Transportation Scoring (Facility)

Funding Category	Quantitative Data	Local Input	
		Division Input	MPO/RPO Input
Regional Impact	**Cost Effectiveness = 25%** • Measurement of the trips generated by the project in 10 years compared to the cost of the project to NCDOT (annualized by the lifespan of the project). **Impact = 20%** • Measurement of the trips generated by the project in 10 years. **Efficiency = 15%** • Measurement of the total trips at the facility with the project in place (passenger facilities), the square footage per employee (administrative facilities), or the number of vehicles per bay (maintenance facilities). **Demand/Density = 10%** • Growth trend of ridership for the system over the previous 5 years. **Total = 70%**	**15%**	**15%**
Division Needs	**Cost Effectiveness = 15%** • Measurement of the trips generated by the project in 10 years compared to the cost of the project to NCDOT (annualized by the lifespan of the project). **Impact = 15%** • Measurement of the trips generated by the project in 10 years. **Efficiency = 10%** • Measurement of the total trips at the facility with the project in place (passenger facilities), the square footage per employee (administrative facilities), or the number of vehicles per bay (maintenance facilities). **Demand/Density = 10%** • Growth trend of ridership for the system over the previous 5 years. **Total = 50%**	**25%**	**25%**

Rail Scoring

Funding Category	Quantitative Data	Local Input	
		Division Input	MPO/RPO Input
Statewide Mobility (Class I Freight Only)	**Benefit-Cost = 35%** • Measurement of monetized benefits compared to the cost of the project to NCDOT, and the amount of other/local funds compared to the total project cost. **Safety = 30%** • Measurement of crash potential at highway/rail crossings, based on the NCDOT Rail Division's Investigative Index. **System Opportunities = 15%** • Measurement of the project's degree of access to industrial/commercial development or nearby points of interest, and the degree of interaction between Rail and other modes. **Capacity and Diversion = 10%** • Measurement of train volume compared to track capacity and the amount of freight and/or passenger volumes diverted off highways by the project. **Economic Competitiveness = 10%** • Measurement of the estimated number of full time jobs created in 20 years. **Total = 100%**	--	--
Regional Impact	**Benefit-Cost = 25%** • Measurement of monetized benefits compared to the cost of the project to NCDOT, and the amount of other/local funds compared to the total project cost. **Safety = 15%** • Measurement of crash potential at highway/rail crossings, based on the NCDOT Rail Division's Investigative Index. **System Opportunities = 10%** • Measurement of the project's degree of access to industrial/commercial development or nearby points of interest, and the degree of interaction between Rail and other modes. **Capacity and Diversion = 10%** • Measurement of train volume compared to track capacity and the amount of freight and/or passenger volumes diverted off highways by the project. **Economic Competitiveness = 10%** • Measurement of the estimated number of full time jobs created in 20 years. **Total = 70%**	**15%**	**15%**
Division Needs	**System Opportunities = 15%** • Measurement of the project's degree of access to industrial/commercial development or nearby points of interest, and the degree of interaction between Rail and other modes. **Benefit-Cost = 10%** • Measurement of monetized benefits compared to the cost of the project to NCDOT, and the amount of other/local funds compared to the total project cost. **Safety = 10%** • Measurement of crash potential at highway/rail crossings, based on the NCDOT Rail Division's Investigative Index. **Capacity and Diversion = 10%** • Measurement of train volume compared to track capacity and the amount of freight and/or passenger volumes diverted off highways by the project. **Economic Competitiveness = 5%** • Measurement of the estimated number of full time jobs created in 20 years. **Total = 50%**	**25%**	**25%**

Note: Passenger Rail only eligible for Regional Impact and Division Needs.

APPENDIX D – P5.0 SCHEDULE